ABSTRACT OF THE DISCLOSURE

In a data storage system in which there can be multiple references to a single instance of an object, a method for regenerating the number of references to each object instance. The method includes radix sorting the references to the objects to generate a reference list, counting the references to each unique object and merging the counts with the object descriptions, placing the count of the number of references to each object into the respective object description. The sorting, counting and merging techniques used by this method generate sequential memory access patterns that enable efficient use of low-cost memory and block-oriented memory access interconnect fabric protocols. Furthermore, multiple instances of the sorting, counting and merging processes can be used in parallel to reduce the time required to regenerate the reference counts for a large number of objects.